

ABSTRACT OF THE DISCLOSURE

A system and method for in-line inspection of specimens such as semiconductor wafers is provided. The system provides scanning of sections of specimens having predetermined standardized characteristics using a diffraction grating that widens and passes nth order ( $n > 0$ ) wave fronts to the specimen surface and a reflective surface for the transmitted light beam. Light energy is transmitted in a narrow swath across the portion of the surface having the standardized features. The wavefronts are combined using a second diffraction grating and passed to a camera system having a desired aspect ratio.